

ABSTRACT OF THE DISCLOSURE

A wireless unlicensed band radio system for use in maritime applications is provided comprising three sector antennas providing a minimum of 120 degrees coverage (3 dB point) which combine to achieve 360 degrees of continuous coverage. Each antenna has its own amplification path so as to improve the performance of the communication link. The system can use any commercially available unlicensed band radios, which typically have only two RF ports (primary and secondary). In order to incorporate the three antenna signals, a passive two-way power divider is incorporated in the primary port to provide driving signals to two of the three antennae. The secondary port is connected to the third antenna. A solid state transmit and receive amplification unit is incorporated in each of the antenna paths, which serves to amplify the signal and switch between transmit and receive operations. All of the sector antenna, amplification units, unlicensed band radio and DC power conditioning circuitry are enclosed inside an environmentally sealed radome, which offers protection against the harsh saltwater environment and direct solar loading, thus minimizing component failure due to saltwater exposure and excessive thermal stress. The system also utilizes CAT-5 cable for data connection which cable does not have the distance limitation of conventionally used coaxial cable.